

REMARKS/ARGUMENTS

Reconsideration and allowance in view of the foregoing amendment and the following remarks are respectfully requested.

Claims 1-2, 5-6 and 9-15 remain pending. Claim 1 has been amended to incorporate the limitations of original claim 3 and claim 2 has been presented in independent form and also amended to include the limitations of original claim 4. Claims 4 and 5 have been canceled accordingly. Further, claim 13 and claim 14 have been presented in independent form.

Original claims 1-4, 9-10 and 13 were rejected under 35 USC 102(b) as being anticipated by Onodera. Applicant respectfully traverses this rejection.

Amended claims 1 and 2 are directed to a rotation angle detector wherein *inter alia* a bearing portion and a supporting portion are integrally formed of the same material. The supporting portion supports a detection portion that detects the rotational position (rotation angle) of a movable shaft. A structure as claimed increases the accuracy of the detection of the position of the movable shaft with respect to the detection portion. Here, the relative rotational angular position between the bearing portion and the movable shaft varies. In addition, the relative position between the bearing portion and the movable shaft also varies relative to each other due to a backlash therebetween. The variation in the relative position due to backlash cannot be absorbed by other portions and the variation causes misalignment between the detection portion and the bearing portion.

In the combination set forth in claims 1 and 2, the detection portion detects the rotational position of the movable shaft without contacting the movable shaft. Consequently, the rotational position can be detected without causing excessive abrasion in an area of contact from relative movement due to backlash. As a result, the durability of the device as well as accuracy of detection can be enhanced.

Anticipation under Section 102 of the Patent Act requires that a prior art reference disclose every claim element of the claimed invention. See, e.g., Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1574 (Fed. Cir. 1986). While other references may be used to interpret an allegedly anticipating reference, anticipation must be found in a single reference. See, e.g., Studiengesellschaft Kohle, G.m.b.H. v. Dart Indus., Inc., 726 F.2d 724, 726-27 (Fed. Cir. 1984). The absence of any element of the claim from the cited reference negates anticipation. See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 715 (Fed. Cir. 1984). Anticipation is not shown even if the differences between the claims and the prior art reference are insubstantial and the missing elements could be supplied by the knowledge of one skilled in the art. See, e.g., Structural Rubber Prods., 749 F.2d at 716-17.

In contrast to the invention of claims 1 and 2, Onodera discloses a slide member piece 6 which serves as a detection portion that is fixed to rotor 5. The slide member piece 6 contacts sliding pattern 4a, which is fixed to bearing 1f. The slide member piece 6 and the bearing 1f slide relative to each other, thereby enabling a rotation angle to be detected. Thus, the slide member piece 6 detects the rotational position of the adjacent rotary shaft 5a while contacting the movable shaft. In this structure, when the relative position varies between the bearing 1f and the rotary shaft 5a due to backlash therebetween, the slide member piece 6 is slid and abraded relative to sliding pattern 4a in a direction different from the rotational direction. In addition, slide member piece 6 is slid and abraded in the rotational direction. Consequently, noise may be generated in the detection signal of the rotational position due to scratches and/or the presence of abrasion powder.

Because Onodera does not teach or suggest the combination of claims 1 and 2, wherein the detection portion detects the rotational position of the movable shaft without contacting the movable shaft, it is respectfully submitted that these claims are

not anticipated by nor obvious from Onodera. Claims 9 and 10 depend from amended claims 1 and 2 and are submitted to be patentable for the same reasons.

With respect to claim 13, claim 13 provides that the detection portion is placed at or adjacent the center side of the axis of the bearing portion. Therefore, even when the diameter of the bearing portion is increased to increase strength, which may be needed for the movable shaft and bearing portion, the increase in diameter of the bearing portion does not influence the location of the detection portion. This is because the detection portion is placed at or adjacent the center side of the bearing portion and, thus, the detection portion can be arranged in the vicinity of the bearing portion in a compact manner.

In contrast, Onodera discloses a detection portion (insulating substrate) 4 arranged around the bearing 1f. In this structure, if the diameter of the bearing 1f is increased to provide needed strength, the detection portion 4, which is arranged around the bearing 1f is also circumferentially enlarged. As a result, the size of the entire device must be substantially increased.

In view of the foregoing, it is respectfully submitted that claim 13 is not anticipated by nor obvious from Onodera.

Applicant notes with appreciation the Examiner's indication that claims 5-8, 11-12 and 14-15 contain allowable subject mater. Claims 5, 6, 11 and 12 are submitted to be patentable for this reason and by virtue of their dependence upon claims that are allowable for the reasons advanced above. Claim 14 has been rewritten in independent form and is therefore submitted to be allowable together with claim 15 dependent therefrom.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

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Respectfully submitted,

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By:

A handwritten signature in black ink, appearing to read "Michelle N. Lester", written over a horizontal line.

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